

**REMARKS**

1. In the above-captioned Office Action, the Examiner rejected claim 3 under 35 U.S.C. §112, second paragraph. Claims 1-4, 7, 8, 10, 11, 14, 16, and 18, were rejected under 35 U.S.C. §102(a) in view of Wlodarczyk et al. (U.S. Patent No. 6,622,549). Claims 9, 13, 17, and 20 were rejected under 35 U.S.C. §103(a) in view of Wlodarczyk. Claims 5, 6, and 19 were rejected under 35 U.S.C. §103(a) given Wlodarczyk in view of Bunch et al. (U.S. Patent No. 5,000,043). These rejections are traversed and reconsideration is hereby respectfully requested.
2. The telephone conversation with the Examiner on October 25, 2005 is appreciated.

3. Claim 3 was rejected under 35 U.S.C. §112, second paragraph. In an advisory action mailed October 20, 2005 Examiner points out that although an engine may be suggested in the specification of the application as originally filed, that, in itself, does not suggest that the chamber as claimed is a combustion chamber because not all fuel injectors protrude into a combustion chamber of an operating engine.

As set forth in Applicant's response mailed on September 30, 2005, the specification of the application as originally filed, as well as claim 3 as originally presented, both support that the chamber as claimed is a combustion chamber. Independent claims 1, 12, and 15 are amended for clarification, at Examiner's suggestion, to state that *the fuel injector is for an internal combustion engine.*

Thus, because the specification clearly supports both a chamber in an apparatus outside an engine as well as a chamber that is a combustion chamber in an engine, claim 3 is in compliance with 35 U.S.C. §112, second paragraph.

4. Claims 1-4, 7, 8, 10, 11, 14, 16, and 18, were rejected under 35 U.S.C. §102(a) in view of Wlodarczyk. Applicant re-asserts the argument concerning the Wlodarczyk reference, as set forth in the previous responses. In summary, Wlodarczyk does not teach an orifice disposed in the nozzle of the fuel injector because the channel 16 of Wlodarczyk is not in the nozzle.

It is well known to one skilled in the art of fuel injectors for internal combustion engines that the nozzle of an injector is at the bottom of the injector.

Applicant has presented evidence, in the form or references in Applicant's previous response, to show that the channel 16 in Wlodarczyk is *not* formed in the nozzle of the injector because the nozzle of the injector is at the bottom or tip of the injector and does not extend up to and does not include the area which houses the orifice 16 of Wlodarczyk. Independent claims 1, 12, and 15, as amended, include the limitation contained in the application as originally filed that the *nozzle is disposed at a distal end* of the injector.

Therefore, Wlodarczyk does not teach *an orifice disposed in the nozzle*, wherein the *nozzle is disposed at a distal end* of the injector, as stated in independent claims 1, 12, and 15, as amended above.

Hence, the applicant respectfully submits that independent claims 1, 12, and 15 are shown to be allowable over Wlodarczyk and may be passed to allowance.

Furthermore, claims 2-4, 7, 8, 16, and 18, are dependent upon an independent claim that is shown to be allowable. For all these reasons, the dependent claims are themselves allowable.

5. Claims 9, 13, 17, and 20 were rejected under 35 U.S.C. §103(a) in view of Wlodarczyk. Even if one were to make a substitution of the optical fiber sensors of Wlodarczyk with piezoelectric quartz transducers as stated in claims 9, 13, and 20, or control the chamber operating pressure as stated in claim 17, the resulting combination would fail to yield the invention as claimed because Wlodarczyk does not teach the unique subject matter of independent claims 1, 12, and 15, as shown above.

Moreover, claims 9, 13, and 17, are dependent upon an independent claim that is shown to be allowable. For all these reasons, these dependent claims are themselves allowable.

6. Claims 5, 6, and 19 were rejected under 35 U.S.C. §103(a) given Wlodarczyk in view of Bunch. Even if one were to combine the pressure control valve or the flow metering unit taught by Bunch with the teachings of Wlodarczyk, the resulting combination would fail to yield the invention as claimed because Wlodarczyk does

not teach the unique subject matter of independent claims 1, 12, and 15, as shown above.

Moreover, claims 5, 6, and 19, are dependent upon an independent claim that is shown to be allowable. For all these reasons, these dependent claims are themselves allowable.

7. The Applicant cancels claims 10, 11, and 14 without prejudice or disclaimer and amends claims 12 and 15 to include the subject matter of claims 10 and 14 respectively. The cancellation of claims 10, 11, and 14, and amendment of claims 12 and 15 is not an admission that Wlodarczyk teaches claims 10, 11, and 14. The cancellation and amendments instead reflects the Applicants' desire to expeditiously proceed and prosecute the remaining claims in this application.

8. The above amendment and response is necessary because it places the application in condition for allowance and was not previously entered because it arises from Examiner's arguments in the Final Office Action. No new matter is introduced by any of the above amendments.

9. The Examiner is invited to contact the undersigned by telephone or facsimile if the Examiner believes that such a communication may advance the prosecution of the present application. Notice of allowance of claims 1-9, 12-13, and 15-20 is hereby respectfully requested.

Respectfully submitted,

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